Climate

132

Though climates detrimental to human occupance may be modified by man's technology, the economic use of any area is greatly influenced by prevailing climatic conditions. In Negros the average farmer's freedom in agricultural activities dependent on the climate is restricted because of meager technology and equipment. His selection from the alternatives that his land offers is limited severely by inability to emancipate himself from minor caprices of the climate. One crop [731] failure due to inadequate or maldistributed rainfall may mean hunger or borrowing against the next harvest and possibly a debt for life.

132
221

In Caticugan the tempo of many activities is closely adjusted with climatic variations. The transition, for example, from the dry to the wet season starts a series of changes in the lives of the barriofolk, and affects such activities as agriculture, fishing, house repair, food gathering, diet, transportation, and health. The day before the first heavy rains, Caticugan had the silent appearance of a deserted village with plows abandoned on their sides in the fields. The next day the rains came. In the drizzle which followed the downpour the fields suddenly came alive with men plowing the wet earth and women and children planting corn. Irregularity in climatic phenomena often results in disruption of the work cycle and economic patterns of the community.

132

The temperature ranges on Negros are slight whereas temperature averages are high. The latitudinal position of Negros is largely responsible for tropical temperature conditions. Twice during the year the sun appears exactly overhead producing a zone of maximum heat reception. The prevalence of cloudiness, exposure to the sea, and the paths of air masses exert moderating influences on the temperature. The periods of maximum cloudiness and maximum heat reception in Negros coincide; this mitigates the heat. The average monthly temperatures (in degrees Fahrenheit) are given in Table II for Bacolod and Dumaguete.[22]

TABLE II

Bacolod, Negros Occidental (18 Years)

January	February	March	April	May	June	July
78.4	78.8	80.1	82.8	82.9	81.7	79.9
August	**September**	**October**	**November**		**December**	**Average**
79.8	79.9	79.9	79.5		79.4	80.2

Dumaguete, Negros Oriental (14 Years)

January	February	March	April	May	June	July
78.8	79.0	79.7	81.5	81.5	81.4	81.4
August	**September**	**October**	**November**		**December**	**Average**
81.7	81.5	80.8	80.7		80.2	80.7

In Siaton the diurnal range is usually greater than the annual temperature range. Even during the warmest part

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[22] Wernsted, op. cit., p.30.

of the year, the evenings were often pleasantly cool for "night is the winter of the tropics."[23]

The precipitation variation of Negros is far more important to the people than temperature differences. From April to December is the season of the southwest monsoon, a period of heavy rain and constant cloudiness. In these months air masses originating south of the Asian continent (e.g., Australia, Indonesia, etc.) blow into the low pressure system of Asia due to the more rapid warming of the land than the sea. Since this is a low pressure system, winds approach the Philippines in a counterclockwise direction, i.e., from the southwest.

As these moisture-laden air masses strike the mountainous lands of Negros they are forced to rise, cool, and drop their moisture.[24] The southern, southwestern, western and northwestern parts of Negros receive abundant rains during the period of the southwest

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[23]"The daily temperature curve reaches its lowest stage at six a.m. Then a strong rise follows until 9:00. After the high point which is reached in the rainy months in Manila at 1:00 p.m., in the dry hot period at 3:00 p.m., a sharp falling off usually follows from 4:00 to 7:00 p.m. which gradually levels off in the evening." Albert Kolb, Die Philippinen. Leipzig, K. F. Koehler, 1942, p.49. Kolb writes that this daily temperature curve is similar in all seasons and in all localities of the Philippines.

[24]Frederick L. Wernstedt, "Climatic Study of the Philippines: 1. Negros Island." Philippine Geographical Journal, I, No. 1, (First Quarter, 1953), pp.24-32.

132

monsoon. Eastern Negros receives relatively smaller amounts of precipitation in comparison with the more exposed western and southern sides of the island. (See Plate VII.)[1] During the ascendency of the southwest monsoon, Cauayan observation station (51) receives 142 inches while Dumaguete (3) has only 33.1 inches of precipitation during the same period.

Siaton municipality has less precipitation than Cauayan but more than Dumaguete since Siaton is more exposed to the southwest monsoon. The annual precipitation over a 6-year period in Siaton is given in Table III.

TABLE III

Annual Precipitation (Inches)

Siaton (1947 - 1952)

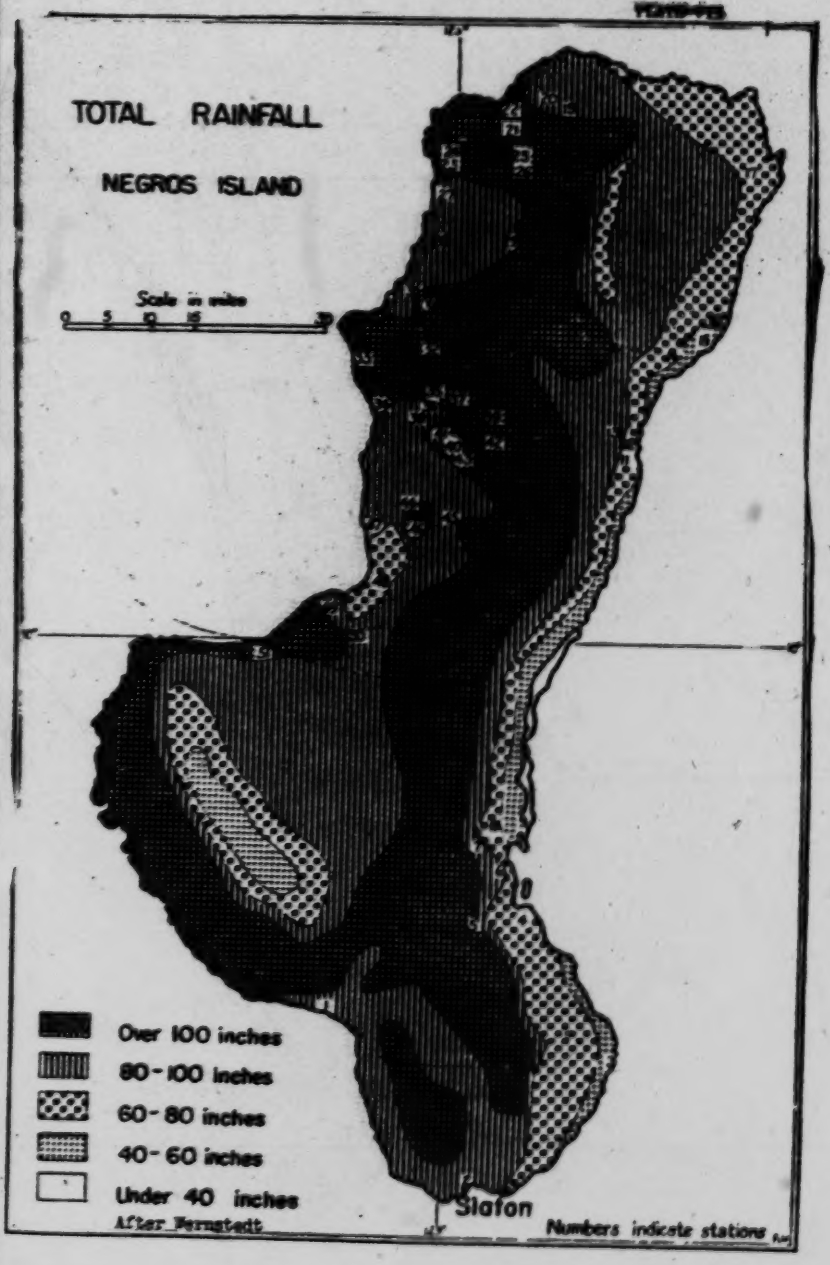
1947	1948	1949	1950	1951	1952
81.3	102.6	101.2	88.0	90.0	106.1

The annual average for this 6-year period was 94.8 inches. Beginning in April there is a rise in precipitation that increases progressively to a climax in August. (See Plate VIII.)[2] By December the precipitation decreases two-thirds. The only month in this 6-year period with no rainy days was January (and only for 1949 and 1952). During the height of the southwest monsoon, August and September, there is an average of 16 rainy days a month.

In September the southwest monsoon fades away and the dry season begins in southern Negros. During this

1 [See p. 50, cat. 132 - Analyst]
2 [See p. 51, cat. 132 - Analyst]

20: Hart E-S (1951) 1954 OA1 Philippines
Central Bisayan OA14



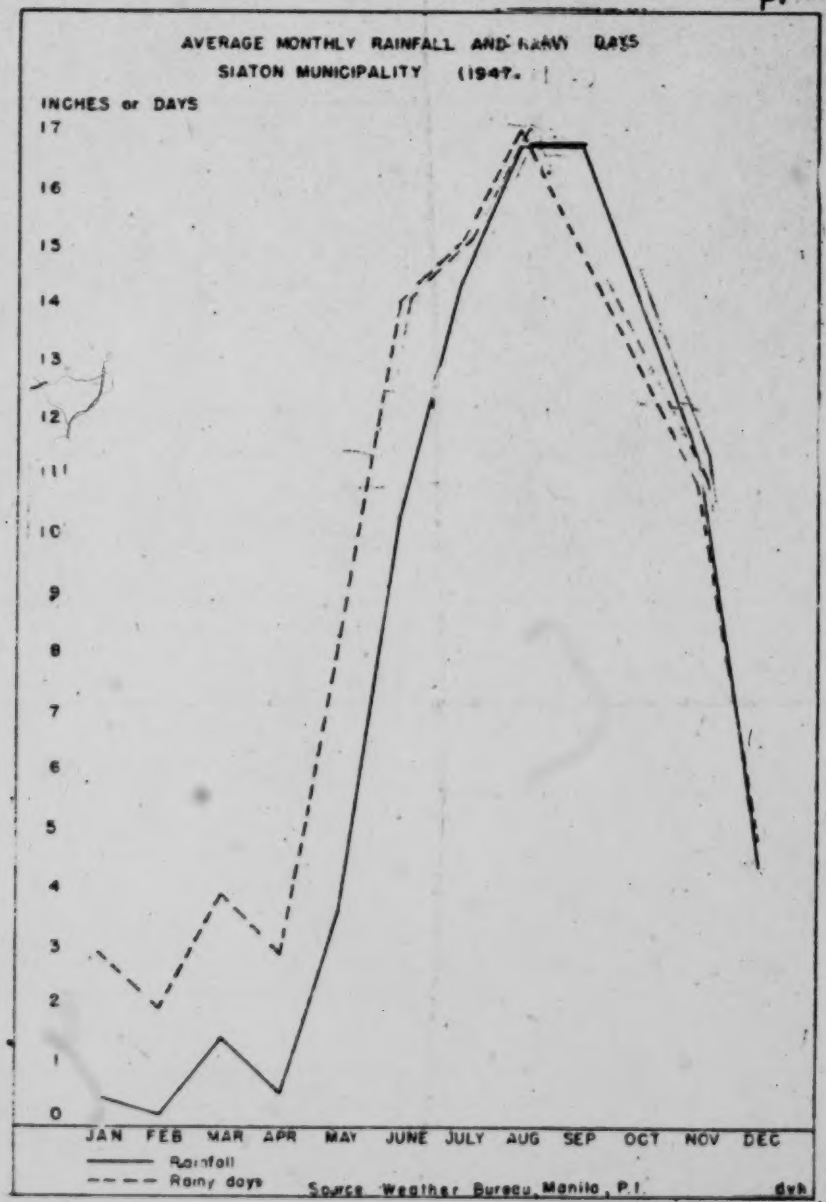
132

P. 50

20: Hart E-5 (1951) 1954 OA1 Philippines
Central Bisayan OA14

PLATE VIII p.57

132



period Asia cools more rapidly than the surrounding seas, creating high pressure centers over the continent. Due to these high pressure centers there is a general outflowing air movement that is deflected clockwise direction, arriving in the Philippines as the northeast monsoon. 132

During the period of the northeast monsoon abundant precipitation falls on Negros' north and northeastern coasts while the south and southwestern coastal areas are relatively dry. Cebu "milks" much of the moisture of the northeast monsoon before it reaches Negros making it less productive of precipitation than the southwest monsoon. It is during the northeast monsoon's period that the fish corrals of Siaton are built. [221]

The total rainfall map (Plate VII)[1] illustrates the annual distribution of precipitation in Negros. The island's eastern coast is the driest because of the less humid northeast monsoon, the proximity of Cebu Island and the Central Mountain range. The heaviest rainfall occurs on the slopes of this range and in parts of southern and west-central Negros. Though Siaton municipality receives nearly 95 inches of precipitation annually, the uneven distribution of this seemingly adequate moisture during the critical agricultural period sometimes results in partial crop failures or necessitates extensive replanting of many cornfields. [731]

1[See p.50, cat. 132--Analyst]

132

From January to March is both the dry and windy period in Siaton. These winds, usually blowing from the east or northeast, are dry and warm. For January and February, 1951, there were, respectively, twelve and eleven windy days in Siaton poblacion. In March and April the windy days decreased to about one-half this amount, seven and six days, respectively. During the period of the southwest monsoon, the winds were both less forceful and less frequent. Now and then a sudden downpour with strong winds would occur. By November the dry winds reappeared with five windy days during this month. Most of these winds were moderate.

In Siaton there are three synonyms for "southwest monsoon": habagat, tanghabagat, and tang-ulolan. In the dialect habagat is "south." The rainy (cool) season is called tangulolan or tanghabagat. The former term is derived from the noun, ulan (rain), while the terms are also the ones used for the rain-bringing southwest monsoon. The northeast monsoon is called amihan or tangamihan; amihan means "north." The dry (hot) season is known as tang-init, tingadlao, or tangamihan. The former term is derived from the adjective, mainit (hot).[25]

25-"East" is silangan and "west" is saladpan. Some of the older residents of Siaton claim amihan is "east," ubos "south," habagat "west" and ibaobao "north." This variety of terms may have occurred in the manner ibaobao came to mean "north." A more precise translation of ibaobao (often shortened to babao) is "up" or "mountainward" which in Siaton normally means going toward the north. There is a sitio called Ubos, just south of the poblacion.

Another source of precipitation for Negros is the typhoon or baguio. Casimiro del Rosario, Director of the Weather Bureau, in Manila, reports that:

> On the average, about nine tropical cyclones of varying intensity (from depression to typhoon strength) pass over the Philippines per year. For the post-war years, thirteen such tropical cyclones occurred in 1948, eleven in 1949, five in 1950, and nine in 1951.[26]

Whereas the trajectories of these tropical cyclones are usually north of the island, some pass near or over parts of Negros, bringing several days of heavy winds and rain, often causing serious destruction. In December, 1951, Typhoon "Amy" (typhoons are given feminine names by the Weather Bureau) struck parts of eastern Negros Occidental, killing 49 persons and destroying about 20 per cent of the sugar cane. Little damage was done in southern Negros Oriental. In 1952 another typhoon passed near southern Negros but the planted fields were not damaged.

Convectional rains frequently occur during the period of the southwest monsoon in the upper reaches of the Siaton River valley. A number of times during my residence the sky above this locality would darken malignantly. Soon a misty grey curtain of rain would slowly move down the valley toward the sea. Often, however, by the time the rain reached Caticugan it was only "big-drop"

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[26] Casimiro del Rosario. A letter in "Question and Answer" column, Philippines Free Press, XLII, No. 30 (September 27, 1952), p.44. In 1934 there were 17 typhoons which struck the Philippines, the greatest number of typhoons recorded for one year in the Philippines.

shower. As Plate VII[1] indicates, the mountainous area northwest of Siaton poblacion has over one hundred inches of rain. Several times during 1951, the Siaton River became a raging torrent overnight, although no rain had fallen in the vicinity of the poblacion. People coming from Balanan and Casala-an would report that it had rained abundantly during the night. 132 ●

Wernstedt established three precipitation regimes in Negros. The first region is located in western and southwestern Negros with a pronounced dry season from December to April and a wet season during the remainder of the year.[27] While the Central Mountain range prevents the northeast monsoon and trade winds from effectively reaching this region, it is open to the southwest monsoon which brings heavy rain. The precipitation of the first regime is most favorable to the growth of sugar cane and rice. Siaton municipality falls into this regime with more than four months of less than 2.4 inches of rain.[28] 132 311

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[27] The average monthly precipitation (in inches), over an 18-year period, for Binalbagan estate, Negros Occidental, located in this region, is: January (2.3); February (1.6); March (1.8); April (2.1); May (8.3); June (8.0); July (15.5); August (12.2); September (12.7); October (11.2); November (7.8); December (3.9). Total annual precipitation: 87.3 inches. Wernstedt, op. cit., p.35.

[28] Wernstedt's original classification placed Siaton in the second precipitation regime. However, since the 1951 and 1952 precipitation records have become available, they show a 6-year period with four months of less than 2.4 inches of rain.

1 [See p. 50, cat. 132 -- Analyst]

The soils and lack of water supplies are perhaps the two most important reasons why more corn than rice is grown in Siaton; the droughty period, limited level land and inadequate transportation facilities do not encourage the cultivation of sugar cane. 132 311

The second precipitation regime is the eastern littoral of Negros Oriental, between Zamboanguita and Calatrava municipalities. Here there is no definite maximum precipitation period but a one- to three-month drought period. The drought normally occurs between December and the beginning of May and discourages both sugar cane and rice but favors corn. This precipitation regime is the corn center of Negros.[29]

Northern Negros, from Calatrava to Victorias municipalities, with an enclave in the Bais lowland, is the third precipitation regime. This area has no dry season but often a pronounced rainfall maximum period. The distinction in land utilization between the first and third precipitation regimes is the length of the harvest and milling seasons. For example, Victorias central (the mill where the cane is processed), located in the third precipitation regime, mills cane for the

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[29]The average monthly precipitation (in inches) for Dumaguete City, located in the second precipitation regime, for a 29-year period, is: January (4.4); February (3.3); March (2.0); April (1.9); May (4.5); June (5.5); July (5.5); August (4.3); September (5.4); October (7.9); November (6.1); and December (5.2). Total annual precipitation: 55.9 inches. Wernstedt, op. cit., p.35.

57

entire year while most of the centrals in the first regime are limited to a 6-month processing period.[30] 132 311

Vegetation

Most of Negros originally was covered with forests. Today about 66 per cent of the land surface of the Philippines is still forested.[31] Older residents of Barrio Bonbonon (Siaton) remember when the forests, which then abounded with deer, covered large areas of Bondo. Today the typical tree of this grassy plateau is the stubby talongon (Ginelina philippensis Cham.) The forests were once nearer to Caticugan where rattan could be gathered without long walks to the mountains. The western and eastern plains of Negros also were once forested. As the population of the island increased the most desirable land for cultivation was cleared of trees and planted with rice, corn, sugar cane and other crops. 137 311

Approximately 50 per cent of Negros' primary forests have been alienated by the people in their centuries of

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[30]The average monthly precipitation (in inches) for Hacienda Bilbao, Manapla, located in the third precipitation regime, for a 19-year period, is: January (7.9); February (4.8); March (4.8); April (3.); May (7.1); June (6.3); July (7.3); August (6.1); September (6.9); October (11.9); November (14.6); and December (9.2). Total annual precipitation: 90.0 inches. Wernstedt, op. cit., p.36.

[31]Reginald G. Hainsworth and Raymont T. Moyer, Agricultural Geography of the Philippine Islands: A Graphic Survey. Washington, D.C., United States Department of Agriculture, Office of Foreign Agricultural Relations, December, 1945, p.12.